TITLE

Please amend the title as follows:

DETECTING ~~CURRENTS~~ OVERCURRENTS IN A SWITCHING REGULATOR USING A VOLTAGE DEPENDENT REFERENCE

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SPECIFICATION

Please amend the paragraph beginning on page 5, line 3 as follows:

In operation, there are two normal modes; one with load 44 connected and one with no load connected. With load 44 present, demand switch controller 16 clocks transistors 18-22 on and off to provide the needed energy to maintain output voltage VO at the desired voltage. Transistor 20 provides the energy and transistors 26 and 28 are for current detection. When load 44 is not connected, the output voltage VO is maintained by the action of demand switch controller 16 and transistor 20 but at a lower switching frequency. If there is a defect such as fault 46 present, the operation of transistor 22 and resistor ~~38~~ 28 becomes important in the hope of detecting the presence of fault 46. The amount of current drawn for load 44 is 5 amps. The current for a fault such as fault 46 is considered to be as low as 100 milliamps (mA) and a fault should be detected at least by 200 milliamps. The input voltage VI to voltage-to-current converter 30 is lower than the supply voltage VS by the drop across resistor 28 caused by the current through transistor 22. The large current through transistor 20 causes a voltage differential between the drain of transistor 20 at supply voltage VS and the source, which is the output to reactive circuit 14. A bigger drop across transistor 20 indicates a larger current supplied to reactive circuit 14. During each pulse that causes transistors 18, 20, and 22 be conductive, the current begins at zero and increases as transistor 20 remains conductive. Transistor 22 causes very little voltage drop due to the small current therethrough so the voltage drop across resistor 28 tracks the current characteristic of transistor 20 very well. Thus, the pulse provided as input signal VI is changed in shape from the current pulse provided by transistor 20 by being voltage representation that is an inversion of that current.

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